

Moderate

Assistant Engineer (Electrical), Class 2025

Building Department

For a balanced three phase, three wire system with input power of 10 kW at 0.9 power factor, the readings on both wattmeter are _____ respectively

A

7 kW, 3 kW

B

5000 W, 5000 W

C

7600 W, 1200 W

D

6350 W, 3650 W

Correct

Correct Answer: D

Full Detailed Explanation

Concept & Reasoning The two-wattmeter method measures total three-phase real power in a 3-wire system. Power factor determines the difference between readings. At unity power factor both readings are equal; as lag angle increases, one reading rises and the other falls. Here the relatively high 0.9 pf gives two positive readings with a modest difference. **How to Solve It in the Exam** Use sum for total power, difference for power factor. **Important Exam Point** Check that $W_1 + W_2$ is approximately 10 kW for any candidate. **Related Revision Path** This question sits in the revision path Electrical Measurements → Three-Phase Circuits → Two-Wattmeter Method .

Open live question on website:

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